



Features

- High voltage rating
- High current rating
- Bidirectional
- Surge protection
- Fast response time
- RoHS compliant*
- Agency recognition: ®

Applications

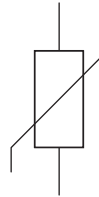
- Power supplies
- Power systems
- Line voltage
- Telecom systems
- White goods / appliances

MOV-07DxxxK Series - Metal Oxide Varistor

General Information

The MOV-07DxxxK Series of 7 mm radial leaded varistor devices protects against overvoltage transients such as lightning, power contact and power induction. The metal oxide varistors offer a choice of varistor voltages from 18 V to 820 V and V_{rms} voltages from 11 V to 510 V.

The devices have a high current handling, high energy absorption capability and fast response times to protect against transient faults up to rated limits.



Industry Standard Compliance

Standard	UL 1449
File Number	E313168

Absolute Maximum Ratings (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	T_{OPR}	-40	25	+85	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40	25	+125	$^\circ\text{C}$
Rated Wattage	P_w			0.25	Watt
Varistor Voltage Temperature Coefficient	V_{TC}	0	0.1	0.05	% / $^\circ\text{C}$
Response Time	T_r		10	25	ns
Varistor Voltage Tolerance	V_{tol}	-10	0	10	%

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Bourns Part No.	Max. Continuous Voltage (V)		Voltage @ 1 mA DC (V)		Voltage @ Class Current		Max. Peak Current (8/20 μs)	Max. Energy (J)	Max. Cap. (pF)
	r.m.s.	d.c.	Min.	Max.	(8/20 μs)				
					Class Current (A)	Max. Clamping Voltage (V)	One Time	8/20 μs	1 kHz
MOV-07D180K	11	14	16	20	2.5	36	250	0.9	2800
MOV-07D220K	14	18	20	24	2.5	43	250	1.1	2300
MOV-07D270K	17	18	24	30	2.5	53	250	1.4	1800
MOV-07D330K	20	26	30	36	2.5	65	250	1.7	1250
MOV-07D390K	25	31	35	43	2.5	77	250	2.1	1300
MOV-07D470K	30	38	42	52	2.5	93	250	2.5	1100
MOV-07D560K	35	45	50	62	2.5	110	250	3.1	890
MOV-07D680K	40	56	61	75	2.5	135	250	3.6	740
MOV-07D820K	50	65	74	90	10	135	1200	5.5	600
MOV-07D101K	60	85	90	110	10	165	1200	6.5	500
MOV-07D121K	75	100	108	132	10	200	1200	7.8	420
MOV-07D151K	95	125	135	165	10	250	1200	9.7	330
MOV-07D181K	115	150	162	198	10	300	1200	11.7	280
MOV-07D201K	130	170	185	225	10	340	1200	13	250
MOV-07D221K	140	180	198	242	10	360	1200	14	230
MOV-07D241K	150	200	216	264	10	395	1200	15	210
MOV-07D271K	175	225	243	297	10	455	1200	18	185
MOV-07D301K	190	250	270	330	10	250	1200	20	165
MOV-07D331K	210	275	297	363	10	550	1200	23	150
MOV-07D361K	230	300	324	396	10	595	1200	25	140
MOV-07D391K	250	320	351	429	10	650	1200	25	130
MOV-07D431K	275	350	387	473	10	710	1200	28	115
MOV-07D471K	300	385	423	517	10	775	1200	30	105
MOV-07D511K	320	415	459	561	10	845	1200	30	100
MOV-07D561K	350	460	504	616	10	925	1200	30	90
MOV-07D621K	385	505	558	682	10	1025	1200	33	80
MOV-07D681K	420	560	612	748	10	1120	1200	33	75
MOV-07D751K	460	620	675	825	10	1240	1200	38	70
MOV-07D781K	480	640	702	858	10	1290	1200	38	70
MOV-07D821K	510	675	738	902	10	1355	1200	40	60

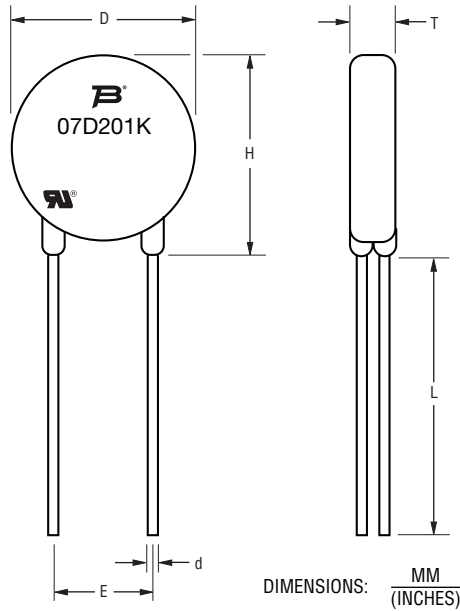
*RoHS Directive 2002/95/EC Jan 27, 2003 including Annex. Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

MOV-07DxxxK Series - Metal Oxide Varistor

BOURNS®

Product Dimensions

This is a molded radial package with lead free 100 % Sn plating on the terminations.

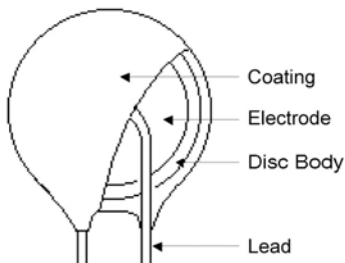


Dimension	MOV-07D Series
D (Max.)	$\frac{9.0}{(.354)}$
H (Max.)	$\frac{11.0}{(.433)}$
T (Max.)	$\frac{6.8}{(.268)}$
d	$\frac{0.6 \pm 0.1}{(.024 \pm .004)}$
E	$\frac{5.0 \pm 0.8}{(.197 \pm .031)}$
L (Min.)	$\frac{20.0}{(.787)}$

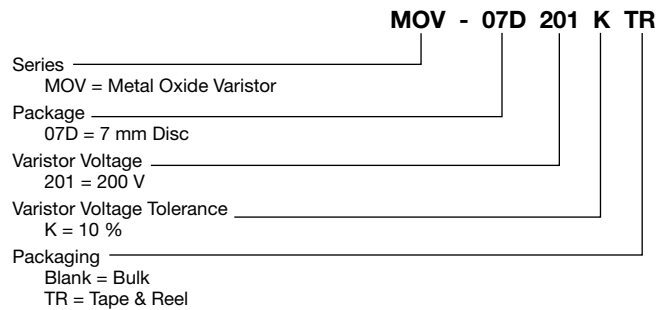
Typical Part Marking

Bourns Part Number	Bourns Part Marking
MOV-07D180K	07D180K
MOV-07D220K	07D220K
MOV-07D270K	07D270K
MOV-07D330K	07D330K
MOV-07D390K	07D390K
MOV-07D470K	07D470K
MOV-07D560K	07D560K
MOV-07D680K	07D680K
MOV-07D820K	07D820K
MOV-07D101K	07D101K
MOV-07D121K	07D121K
MOV-07D151K	07D151K
MOV-07D181K	07D181K
MOV-07D201K	07D201K
MOV-07D221K	07D221K
MOV-07D241K	07D241K
MOV-07D271K	07D271K
MOV-07D301K	07D301K
MOV-07D331K	07D331K
MOV-07D361K	07D361K
MOV-07D391K	07D391K
MOV-07D431K	07D431K
MOV-07D471K	07D471K
MOV-07D511K	07D511K
MOV-07D561K	07D561K
MOV-07D621K	07D621K
MOV-07D681K	07D681K
MOV-07D751K	07D751K
MOV-07D781K	07D781K
MOV-07D821K	07D821K

Internal Construction



How to Order

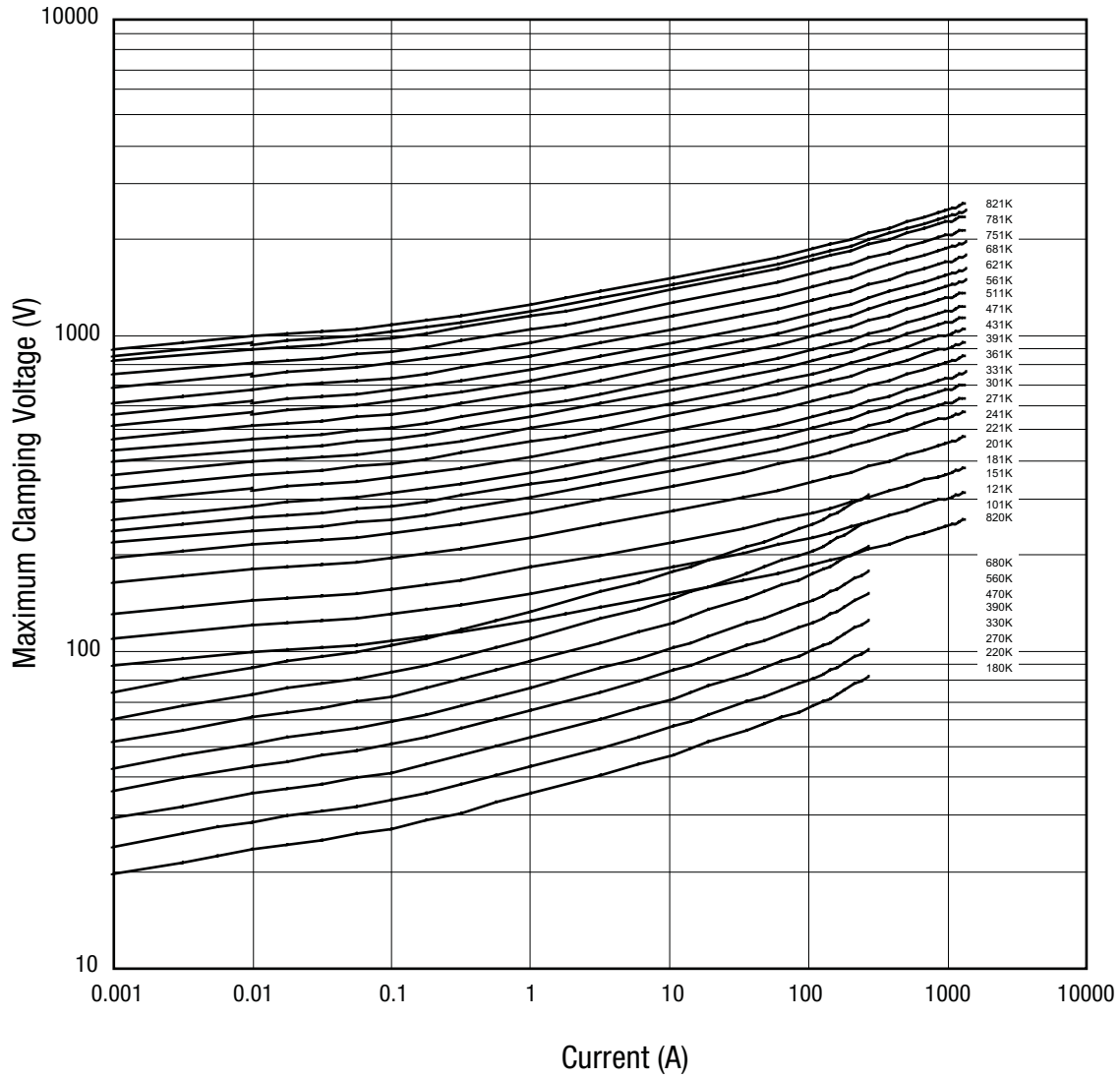


Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

MOV-07DxxxK Series - Metal Oxide Varistor

BOURNS®

Performance Graphs



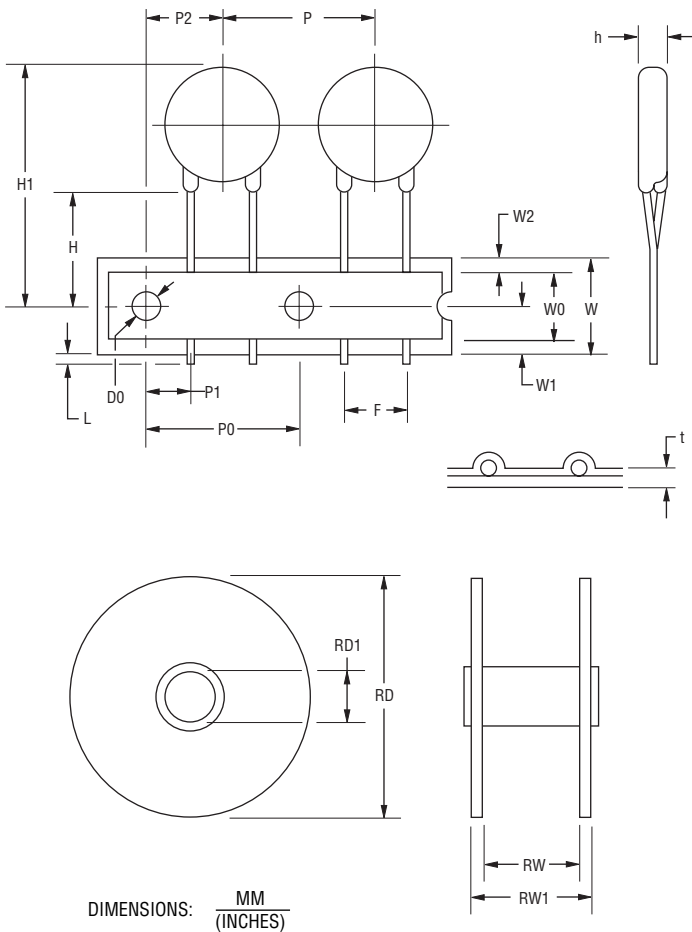
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

MOV-07DxxxK Series - Metal Oxide Varistor

BOURNS®

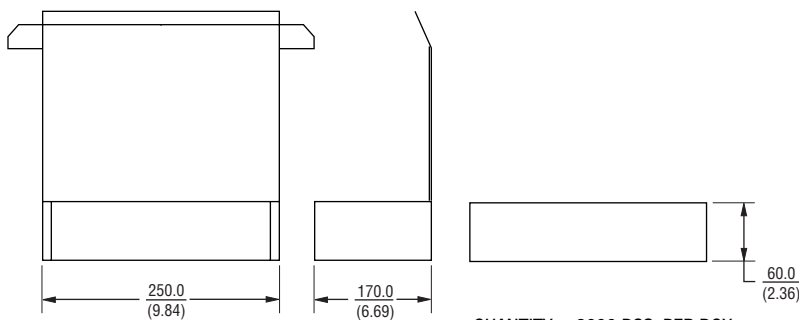
Packaging Information

TAPE & REEL



Item	Symbol	7 mm Disc
Reel Outside Diameter	RD	$\frac{355}{(13.98)}$
Reel Inner Diameter	RD1	$\frac{30}{(11.81)}$
Tape Width	RW	$\frac{47}{(18.50)}$
Reel Width	RW1	$\frac{53}{(20.87)}$
Pitch of Component	P	$\frac{12.7 \pm 1.0}{(0.50 \pm 0.04)}$
Feed Hole Pitch	P0	$\frac{12.7 \pm 1.0}{(0.50 \pm 0.04)}$
Feed Hole Center to Pitch	P1	$\frac{3.85 \pm 0.7}{(0.15 \pm 0.03)}$
Feed Hole Center to Component Center	P2	$\frac{6.35 \pm 1.0}{(0.25 \pm 0.04)}$
Lead to Lead Distance	F	$\frac{5.00 \pm 0.8}{(0.20 \pm 0.03)}$
Component Alignment	Dh	$\frac{2.0}{(0.79)}$ max.
Tape Width	W	$\frac{18.0 \pm 0.5}{(0.71 \pm 0.02)}$
Hole Down Tape Width	W0	$\frac{12.0 \pm 0.8}{(0.47 \pm 0.03)}$
Hole Position	W1	$\frac{9.0 \pm 0.5}{(0.35 \pm 0.02)}$
Hole Down Tape Position	W2	$\frac{3.0}{(0.12)}$ max.
Height From Center to Component Base	H	$\frac{19.0 \pm 1.0}{(0.75 \pm 0.04)}$
Seating Plane Height	H0	$\frac{16.0 \pm 0.5}{(0.63 \pm 0.02)}$
Component Height	H1	$\frac{32.0}{(1.26)}$ max.
Crimp Length	C	$\frac{2.60}{(0.10)}$ typ.
Feed Hole Diameter	DD	$\frac{4.0 \pm 0.2}{(0.16 \pm 0.08)}$
Total Tape Thickness	t	$\frac{0.6 \pm 0.3}{(0.02 \pm 0.01)}$
Length of Clipped Height	L	$\frac{1.0}{(0.04)}$ max.
Quantity per Reel (07D180K - 07D391K)	-	2000
Quantity per Reel (07D431K - 07D821K)	-	1500

BULK



QUANTITY = 2000 PCS. PER BOX

BOURNS®

Asia-Pacific:

Tel: +886-2 2562-4117

Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555

Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500

Fax: +1-951 781-5700

www.bourns.com

REV. 12/10

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.